VAX/VMS
Systems Dispatch

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VAX/VMS SYSTEMS DISPATCH

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The **VAX/VMS Systems Dispatch** contains new and revised Software Product Descriptions, programming notes, software problems statements and responses. Much of the material is developed from Software Performance Report (SPR) answers significant to the general audience and is printed here to supplement the maintenance updates.

DECnet-VAX
DECtype/VMS
VAX ReGIS Graphics Library
RTEM-11
VAX Ada
VAX ADE
VAX BASIC
VAX BLISS
VAX C
VAX CDD
VAX COBOL
VAX CORAL-66
VAX DATATRIEVE
VAX DBMS
VAX DECalc
VAX DECOR
VAX DIBOL
VAX DSM
VAX
VAX FORTRAN
VAX MUX200
VAX PASCAL
VAX PL/I
VAX SPM
VAX TDMS
VAX 2780/3780 Protocol Emulator
VAX 3271 Protocol Emulator
FORTRAN IV/VAX to RSX (Cross Compiler)
VAX SORT/MERGE
VAX
PDP DATATRIEVE/
VAX

DISTRIBUTION

The **VAX/VMS Systems Dispatch** is directed to one software contact for each software product. No mailing will be made to addresses without a software contact name. **Address change requests should be sent to the nearest DIGITAL field office. Include the new address and mailing label from the most recently received publication.**

Software binary and sources are provided under licenses only. The standard Terms and Conditions, OEM Agreement, and/or Quantity Discount Agreement contain the licenses for all binaries other than DECsystem-10.

Barbara Scollan, Editor

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HINTS FOR WRITING SPRS

1.0 Introduction

Software Performance Reports (SPRs) exist to benefit customers as well as DIGITAL. They provide informaton to customers and feedback to DIGITAL about software problems.

The following descriptions provide guidelines for submitting information to DIGITAL so that SPR problems can be solved. Some information is common to all SPRs; other information is requested for only certain types of problems.

2.0 SPR Priority Levels

The following explanations of SPR priorities should be used as a guideline for determining the priority of an SPR. Please note that the priority determination should be based on the system or facility behavior that has actually been experienced at the site and should not be based on the perception of the impact of a potential problem.

Priority	Explanation

1. MOST PRODUCTION WORK CANNOT BE RUN e.g., important production software is unusable, the system will not boot, necessary peripherals cannot be used as intended, no workaround exists.

2. SOME PRODUCTION WORK CANNOT BE RUN e.g., certain functions or jobs are not usable, level of performance is not as expected or some documented feature does not work as expected but there is a workaround.

3. ALL PRODUCTION WORK CAN BE RUN WITH SOME IMPACT ON USER e.g., significant manual intervention is required, performance has degraded but work can still be done.

4. ALL PRODUCTION WORK CAN BE RUN WITH NO SIGNIFICANT IMPACT ON USER e.g., problem can be patched easily, simple bypass procedure exists.

5. NO SYSTEM MODIFICATIONS NEEDED TO RETURN TO NORMAL PRODUCTION e.g., suggestion, consultation, documentation error or inquiry.

3.0 General Guidelines

This section covers the information that should be provided with all SPRs. Depending upon the problem, this information will vary in quantity and content. Remember that the more pertinent information that is included, the easier it is for DIGITAL to resolve the problem.

3.1 Scenario

A complete scenario should be supplied, usually in the form of a batch log console listing or SET HOST/LOG output file that shows exactly how the problem is produced. Supplying only the output produced by the problem is not enough. The entire scenario of what was done by the user is needed. The problem may be caused by an interaction between various system events, software packages, devices, SYSGEN parameters, DCL symbols or logical names. Some or all of the displays generated by the following commands may be required for different problems:

```
$ SHOW LOGICAL/ALL/FULL
$ SHOW SYMBOL/ALL/GLOBAL

$ RUN SYS$SYSTEM:SYSGEN
SYSGEN>  USE ACTIVE
SYSGEN>  SHOW/ALL
SYSGEN>  SHOW/SPECIAL
SYSGEN>  EXIT
```

3.2 Limit Problem Scope

As much as possible, eliminate all extraneous elements from the scenario. For example, if the execution of a very large program causes a problem, shorten the program to include only the code that causes the problem or write a small program that demonstrates the problem. This action has two benefits: first, logic errors may be discovered; second, the maintainer looking into the problem does not have to comprehend unnecessary material.

3.3 Machine-readable Files

If possible, supply any software needed to reproduce the problem. This may include source programs, image files, sample data, command procedures, logical names etc. If source programs are submitted, also include any libraries or require files referenced. These files must be provided in machine-readable format. Console medium or ANSI magtape are the best media to include with the SPR.

If the problem involves a system crash, include the system dump.

The data should be written to an ODS-2 format disk or an ANSI magtape. For example, the following commands will copy the system dump file to an ANSI magtape:

```
$ INIT MTA0: DUMPS
$ MOUNT/FOREIGN MTA0:
$ BACKUP/IGNORE=NOBACKUP SYS$SYSTEM:SYSDUMP.DMP -
_$ MTA0:DUMPS/SAVE
$ DISMOUNT MTA0:
```

NOTE

Since the system dump file is frequently marked NOBACKUP (telling the BACKUP utility to copy the file attributes but not its contents), the dump file be must copied with:

BACKUP/IGNORE=NOBACKUP

This will insure that the file contents are copied, as well as the file attributes. The commands used to write the media should also be provided with the SPR.

On a MicroVAX, where there is no console block storage device, use one of the floppy diskette drives to create machine-readable medium to be included with the SPR. The following commands can be used to copy files:

```
$ INIT  $FLOPPY1: SPRDATA
$ MOUNT  $FLOPPY1: SPRDATA
$ CREATE/DIRECTORY  $FLOPPY1:[DUMP]
$ BACKUP MYDATA.DAT,MYIMAGE.EXE  $FLOPPY1:[DUMP]SPRDATA/SAVE
$ DISMOUNT  $FLOPPY1:
```

On a full VAX, where there is a console block storage device, the following commands can be used to copy machine-readable data:

```
$ RUN SYS$SYSTEM:SYSGEN
SYSGEN>  CONNECT CONSOLE
SYSGEN>  EXIT
```

(At this time, remove the console medium and place a scratch volume in the console block storage device.)

```
$ INIT CSA1: SPRDATA
$ MOUNT CSA1: SPRDATA
$ CREATE/DIRECTORY CSA1:[DUMP]
$ BACKUP MYDATA.DAT,MYIMAGE.EXE CSA1:[DUMP]SPRDATA/SAVE
$ DISMOUNT CSA1:
```

It is important to use BACKUP to write the media submitted with an SPR. Transferring files in a save set produced by BACKUP is much more reliable than copying files to the media.

When machine-readable data is not provided in BACKUP save-set format, include the exact commands that were used to write the data and the commands used for reading it. Other formats are discouraged, since they may cause problems.

All machine-readable media submitted with SPRs will be returned to the customer.

3.4 System Environment

Every computer site runs a different type of workload. Some problems only appear under certain conditions. For example, some sites give different classes of users different base priorities. These sites may encounter problems that other sites do not. This information can be extremely important in resolving the problem, especially for system hangs or system crashes.

Describe any special software packages that are being used. Also, mention any foreign hardware devices or user-written drivers.

Software version numbers should be included. For example, if there is a problem with accessing local symbols during a DEBUG session, the version numbers of DEBUG and all relevant compilers/assemblers should be specified.

If any patches other than those from maintenance updates are being used, they should be mentioned in the SPR.

3.5 User Analysis (Optional)

Optionally, an analysis of the problem may be included. Any useful miscellaneous information should be included, such as, "Without xyz happening, the problem could not be reproduced" or "On version Vx.y, this problem does not occur."

4.0 Problem-specific Information to Include

Resolution of different classes of problems generally requires different kinds of additional information.

NOTE

For those items that are identified with a single asterisk (*), the raw data file (SYS$ERRLOG:ERRLOG.SYS), not the formatted output from the ANALYZE/ERROR utility, should be included. Formatted output frequently does not include all the information needed to resolve the problem.

For those items that are identified with a double asterisk (**), the raw data file (SYS$SYSTEM:SYSDUMP.DMP), not the formatted output from the SDA utility, should be included. Formatted output usually does not include all the information needed to resolve the problem.

Problem	Information to Include
System Bugcheck/Crash	A machine-readable copy of the system dump file must be included.** (Output from the SDA utility should not be sent since it usually does not include enough information to resolve the problem). A copy of the error log at the time of the error should also be included because many system problems are triggered by hardware errors.*
Machine-check:	On a machine check, include a machine-readable copy of the error log, not output from the error log generator.* A machine-readable copy of the system dump file should also be included. **
System Hang:	When a system appears "hung" (no response on any terminals), the system should be manually crashed and the system dump file included with the SPR. When the system is shut down in this way, the console listing is very important and should be included with the SPR.

On VAX-11/730, VAX-11/780, VAX-11/782, VAX-11/785, and VAX 8600 primary console terminals, enter: (do nothing on the attached processor's console)

```
^P
HALT
@CRASH
```

On VAX-11/750 console terminal, enter:

```
^P
E P
E/I 0
E
E
E
E
D/G F FFFFFFFF
D P 1F0000
C
```

On MicroVAX I:

Push the HALT button on the front panel of the CPU box twice, so that the button is latched out (the red light in the center of the button is out).

Then, on the console terminal, enter:

```
E P
E/I 0
E +
E +
E +
E +
D/G F FFFFFFFF
D P 1F0000
C (Then wait a minute or so)
```

Note: If a CRT is being used, copy the displayed values from the examine commands to paper and submit them with the SPR.

On MicroVAX II:

Enable the HALT button via the switch on the back panel of the CPU box.

Push the HALT button on the front panel of the CPU box twice, so that the button is latched out (the red light in the center of the button is out).

Then, on the console terminal, enter:

```
E PSL
E/I 0
E +
E +
E +
E +
D PC FFFFFFFF
D PSL 1F0000
C (Then wait a minute or so)
```

Note: If a CRT is being used, copy the displayed values from the examine commands to paper and submit them with the SPR.

The preceding command sequences cause the VAX or MicroVAX system to bugcheck in a manner that is recognized by VMS developers as a forced crash.

Also include a description of the currently running workload.

VAXclusters:

If all machines in a VAXcluster are "hung" for a reason other than an explainable lack of quorum, a coordinated set of dumps plus console listings from all machines may be required for diagnosis. A coordinated set of dumps is a dump from every machine in the cluster taken in a way that ensures that the lock and other data structures are consistent between all dumps. To take a coordinated dump, first halt every VAX in the cluster. The last machine must be halted no more than 99 seconds after the first machine is halted. After all machines have been halted, crash each machine as directed under SYSTEM HANG, and provide all of the dumps and all of the console logs with your SPR.

Executive: If it appears that there is a problem with the executive code, include the active values of the system parameters. These can be obtained by invoking SYSGEN and entering both the SHOW/ALL and SHOW/SPECIAL commands.

A machine-readable copy of the source program showing the problem plus libraries, require files, and build files should also be included, if possible.

Also include a copy of the machine-readable error log at the time of the problem. *

Devices: For any suspected device or device driver error, include a copy of the error log at the time of the problem. *

Corrupted RMS Files: When an RMS file becomes corrupted by software, an SPR should always be submitted. Items to include with the SPR are:

1) A copy of the corrupted file.

2) Any programs (preferably with sources) and data that are necessary to reproduce the corruption. Note the distinction between programs that merely demonstrate that the file is corrupt, as opposed to a program that causes the corruption to occur. Please try to trim down the program to isolate the specific operations that led to the corruption.

3) A description of how the file is being processed when the corruption occurs. For example, how many users are accessing the file, what kind of operations are being performed on the file ($UPDATEs, $PUTs, $DELETEs, etc.).

Sometimes accessing a corrupted file can cause nonfatal bugchecks. If it

appears that a process is continually disappearing from the system, check the error log for nonfatal bugchecks. If this is the case, include a crash dump with the SPR. To obtain a crash dump (assuming the system manager has given permission), perform the procedure below. Since this procedure will crash the system, it is suggested that it be performed during off-peak hours. Be sure to give adequate warning if there are any users on the system.

```
$ RUN SYS$SYSTEM:SYSGEN
SYSGEN>  USE ACTIVE
SYSGEN>  SET BUGCHECKFATAL 1
SYSGEN>  WRITE ACTIVE
SYSGEN>  EXIT
$ RUN PROGRAM_THAT_BUGCHECKS
```

Intermittent:

For a problem that is intermittent or that is not reproducible, include a copy of the machine-readable error log at the time of the problem. *

Command Language Interpreters:

When submitting an SPR on a command language interpreter, it is important to show all symbols and logical names defined on the system by using the following commands:

```
SHOW SYMBOL/ALL/GLOBAL
SHOW SYMBOL/ALL/LOCAL
SHOW LOGICAL/ALL/FULL
```

Also, indicate whether private or modified command tables are being used.

Job Controller:

If the job controller process encounters a fatal error condition, it aborts execution and restarts itself (as a new process). Upon restart, the system job queue file is not reopened automatically; a START/QUEUE/MANAGER command and

appropriate START/QUEUE commands must be manually issued to restart batch and print processing for that node.

For this type of controller problem, include a copy of the console log error message and a machine-readable copy of the job controller process dump written by the system to SYS$SYSTEM:JOBCTL.DMP. In addition, if the START/QUEUE/MANAGER command fails because of a corrupted system job queue file, also include a machine-readable copy of the queue file. The default queue file name is SYS$SYSTEM:JBCSYSQUE.DAT.

Print Symbiont:

Print symbiont process dump:

If the print symbiont exits, a message from the job controller is printed on the console, together with an error message from the print symbiont. Also, a symbiont process dump is written to SYS$SYSTEM:PRTSMB.DMP. Include a copy of these console log messages and a machine-readable copy of the symbiont process dump. Also include copies of the displays:

SHOW QUEUE/FULL/ALL
SHOW PRINTER (for all printer execution queues)
SHOW QUEUE/FORM/FULL
SHOW TERMINAL (all terminal execution queues)

If a file was involved, include a DIRECTORY/FULL of the file and, if possible, a machine-readable copy of the file. If at all possible, attempt to explain the conditions which directly preceded the symbiont exit, such as commands used or attempted, and/or a detailed description of the symbiont behavior prior to exiting.

Unexpected format or output generated with print symbiont:

If the print symbiont problem exists in the formatting or output of data, include a machine-readable copy of the file and the library modules in use when printing.

Include a DIRECTORY/FULL display of the file and a copy of the displays using the following commands:

SHOW QUEUE/FULL/ALL
SHOW QUEUE/FORM/FULL
SHOW PRINTER and/or SHOW TERMINAL
(whichever is applicable)

Along with a description of the explicit PRINT command, include qualifiers and a copy of the FILE TRAILER page. Please provide all information required to reproduce the behavior consistently.

User-written and user-modified symbiont problems:

Describe the problem as completely as possible, including the intent of the user symbiont. Supply all details surrounding the problem and include a well-commented listing of the user-supplied symbiont or routine. If the problem is associated with the specification of the queue, form, characteristics, parameters, or other input to the DCL command line, include a log file or a description of the PRINT command which demonstrates the problem.

LIBRARIAN:

If there is a problem with the LIBRARIAN, include the following material:

1. A machine-readable copy of the library itself
2. Machine-readable copies of all input files to the library
3. Information (DIRECTORY/FULL) on the library file
4. Information (LIBRARY/LIST/FULL) on the library contents

If the problem can be duplicated at will, include the scenario and any command files used.

LINKER: If there is a problem with the LINKER, include machine-readable copies of the object files, shareable images, and libraries used in the link, along with a full map (LINK/MAP/FULL).

Debugger: Include sources, objects, and images for the program being debugged. If the program is large, it would be very helpful to reduce the size of the program to demonstrate the same problem. Also include a log of the debugging session and include the DEBUG.LOG file that the debugger produces.

DECnet: For a DECnet problem, supply configurations of the systems involved in the problem. This information should include the version numbers of the operating systems and DECnet, the hardware on both systems, and the patch level of the DECnet software on the non-VMS system, if applicable. Depending on the nature of the problem, it might also be applicable to supply hard-copy display of executor, line or circuit parameters and/or counters.

Terminals: If there is a problem with the terminal driver, provide the following information:

1. A list of terminal characteristics (SHOW TERMINAL)
2. The type of terminal
3. The type of modem (if any)
4. Any special front-end equipment
5. Any unusual terminal configuration

If the problem involves remote file access, it is often useful for the maintainer to know if the same or similar operation can be performed from a different account, or with the source and destination nodes reversed.

Compiler/Assembler: If there is a problem with the assembler or a compiler, include the source program that caused the problem. (It is very important to include all require files and libraries that are referenced by the source program).

It is especially important to limit the scope of the problem when submitting SPRs on compilers.

Include the version number of the compiler and the version number of the operating system.

NEWS BULLETIN

Seq. 1.1.6

Important VAX/VMS Version 4.n Information

In this month's issue, the cumulative index contains some additional information. In the right-most column, there appears either an "R," an "F," or a blank. The "R" means that an article has been republished because the information, in some way, has been modified. The "F" means that the problem originally described in this article has been fixed in one of VAX/VMS Versions 4.0, 4.1, 4.2, 4.3, or 4.4. A blank in the right-most column means that the information contained in the article remains unchanged.

KNOWN PROBLEMS AND RESPONSES

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: SYS

Seq. 5.20.16

Cluster $BRKTHRU function

PROBLEM
STATEMENT

The $BRKTHRU system service cannot be used to write to a specific terminal on a different node in the VAXcluster.

RESPONSE

The $BRKTHRU modifier BRK$M_CLUSTER works in the following way:

1. The broadcast is done on the local node.
2. The remaining nodes in the cluster are instructed to perform the same operation.

For BRK$C_USERNAME, BRK$C_ALLUSERS, and BRK$C_ALLTERMS, this pair of operations makes the most sense. For example, using BRK$C_USERNAME with BRK$M_CLUSTER means "get this message to username X on whatever node (or nodes) in the cluster that user X is logged in on."

The system service is not currently designed to look at the device name and direct the broadcast to a specific terminal on another node in the cluster. Therefore, requesting BRK$M_CLUSTER with BRK$C_DEVICE is currently not a meaningful option.

Current documentation does not adequately describe the functions of BRK$M_CLUSTER in the $BRKTHRU system service. We will either amend the documentation or make the system service more flexible in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: SYS

Seq. 5.20.17

P1V parameter does not function correctly

PROBLEM STATEMENT

The description of the $QIO system service in the VAX/VMS System Services Reference Manual indicates that the first device-specific parameter can be specified as either "P1" or "P1V". This "value" feature does not seem to function correctly.

RESPONSE

This P1V alternate parameter designation has appeared in several different places in the documentation since the early versions of VMS. We believe that the feature was never implemented in the $QIO_S macro in STARLET.MLB.

We do not plan to change the $QIO_S macro to incorporate this feature. We will remove any mention of P1V from a future revision of the VAX/VMS System Services Reference Manual.

Note that a parameter list for the SYS$QIO procedure can be built by hand, ensuring that the correct instruction (PUSHL or PUSHAx) is used.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 11.40.3
PRODUCT: VAX/VMS
COMPONENT: SYSINIT

Duplicate system disk label names prevent booting

PROBLEM
STATEMENT

When booting a VAXcluster system, the following error messages appear on the console and the boot operation is halted:

```
%SYSINIT-E- error mounting system device, status = 007280B4
%SYSINIT-E- error opening or mapping F11BXQP, status =
            00018272
%SYSINIT-E- message file not found or insufficient SPT to map
            it, status = 00018272
```

RESPONSE

As of VAX/VMS Version 4.0, system disks require unique label names when used in a VAXcluster. All volumes mounted /SHARED, /GROUP, or /SYSTEM must have unique volume labels across a VAXcluster. System disks are always mounted with the /SYSTEM qualifier.

To meet this requirement, each different system disk in the VAXcluster must have a different volume label. This condition can be produced by changing the volume label on system disks before attempting to boot from them. The following DCL command can be used to change the volume label on any disk:

```
$ SET VOLUME/LABEL=label device
```

OPERATING SYSTEM: VAX/VMS V4.2 Seq. 15.15.4
PRODUCT: VAX/VMS
COMPONENT: JOBCTL

SET QUEUE/ENTRY/RELEASE command works incorrectly

PROBLEM STATEMENT

Contrary to the documentation in the VAX/VMS DCL Dictionary, the following command has no effect on jobs submitted with the /AFTER qualifier:

```
$ SET QUEUE/ENTRY/RELEASE
```

RESPONSE

A problem introduced in VAX/VMS Version 4.2 changed the behavior of the /RELEASE qualifier. As a workaround, modify the job with the following command and specify the time to be less than or equal to the current time:

```
$ SET QUEUE/ENTRY/AFTER=time
```

We expect to correct this problem in a future update of VAX/VMS after Version 4.3.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 25.5.14
PRODUCT: VAX/VMS
COMPONENT: DECnet

DECnet hangs up when time is set back

PROBLEM STATEMENT

When the system time is set back, DECnet ceases to function until the time has caught up to the original time value.

RESPONSE

This problem is caused by the presence of timer queues within the network ancillary control process (NETACP) which contain absolute time values. Consequently, the events that are scheduled wait until the system time reaches the actual time stored in the queue entries, which takes longer once the system time has been set back. These events typically include the sending of router Hello messages and similar routing layer events. The problem is much less evident on an end node.

We intend to address this problem in a future update of VAX/VMS. In the interim, the best workaround is to shut down DECnet on routing nodes prior to setting the time back and to restart it immediately. This reduces the time that DECnet is unavailable.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 25.5.15
PRODUCT: VAX/VMS
COMPONENT: DECnet

Nodes in different areas are unreachable

PROBLEM
STATEMENT

A Data Link Mapping (DLM) circuit between two nodes in different areas remains ON-STARTING if the nodes are the only nodes in their respective areas. If a second node is brought up in either area, the DLM circuit can be established across the areas.

RESPONSE

This problem occurs because the area routing decision is not running the algorithm to determine if there are other area routers in the network. If there are other area routers, the routing layer sets a bit indicating to the End Communication Layer (ECL) that it should use the area adjacency vector to determine whether this node is reachable. Since that bit is not set, the node appears unreachable to all layers above the routing layer.

This problem is corrected in VAX/VMS Version 4.3.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 31.50.1
PRODUCT: VAX/VMS
COMPONENT: TFDRIVER

Incorrect position after error recovery

PROBLEM
STATEMENT

I/O requests are issued to a tape on a TU78 tape drive. The I/O requests complete successfully and return an SS$_NORMAL status, indicating that the record was read without a problem. However, if certain types of recoverable tape errors occurred, the tape might be positioned over the same record that it just read. This results in the program looping over the same record indefinitely.

RESPONSE

The problem results from reading a record that cannot be read in the forward direction. The TM78 tape controller repositions the tape to the beginning of the record and returns a status to the driver, indicating that the READ operation should be retried in the forward direction. After 12 retries and repositions, the TM78 controller does not reposition the tape (thus, leaving it at the end of the problem record). It returns a status to the driver, indicating that a READ REVERSE should be attempted. This will be attempted up to 12 more times, with the TM78 repositioning the tape to the end of the record after each failure to read in the reverse direction. If any of the READ REVERSE operations successfully read the record, the tape is left positioned at the beginning of the record. With the tape left at the beginning of the record, the next READ command once again attempts to read this same record.

In a future update of VAX/VMS, the driver will be enhanced to properly position the tape in this situation.

OPERATING SYSTEM: VAX/VMS V4.2 Seq. 31.50.2
PRODUCT: VAX/VMS
COMPONENT: TFDRIVER

Incorrect density qualifier yields no error

PROBLEM
STATEMENT

The use of the /DENSITY qualifier with magnetic tape operations is supported but does not produce error messages for illegal densities.

RESPONSE

This problem is caused by an error in the design of the magnetic tape device drivers and is common to all such drivers.

In a future update of VAX/VMS, we hope to enhance Utilities such as MOUNT and INITIALIZE to handle this situation properly.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 31.55.1
PRODUCT: VAX/VMS
COMPONENT: TMDRIVER

EOT bit not properly set in DEVDEPEND

PROBLEM STATEMENT

A program using a magnetic tape is unable to determine the physical end of the tape during a READ operation. This operation was possible in VAX/VMS Version 3.n.

RESPONSE

Problems can occur reading magnetic tapes on either the TM03 tape driver or the TM78 controller. First, a problem in the TM03 (TE16) tape driver prevented the EOT bit from being set on a READ. We expect to correct this in a future update of VAX/VMS.

Second, the TM78 (TU78) controller did not support EOT detection on READ. This was recently fixed in a hardware ECO to the TM78 controller. Please see your Field Service representative about ECO M8960-SHO16. Support for this ECO is included in VAX/VMS Version 4.3.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 31.65.1
PRODUCT: VAX/VMS
COMPONENT: TUDRIVER

Density changes on multivolume set

PROBLEM
STATEMENT

If the following BACKUP command requires more than one volume, subsequent volumes will be written at the system default density rather than at 6250 bpi:

```
$ BACKUP *.* MUA0:SAVESET.NAME/REWIND/DENSITY=6250
```

All tapes were preinitialized to 6250 bpi.

RESPONSE

This problem was corrected in VAX/VMS Version 4.2.

Please note that this problem occurs only on TMSCP tape drives (TU81, TA78, TA81, and TK50). A workaround is to specify the following command prior to entering the BACKUP command:

```
$ SET MAGTAPE/DENSITY=6250 MUA0:
```

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: TUDRIVER

Seq. 31.65.2

Multivolume BACKUP on TMSCP drives

PROBLEM
STATEMENT

On a multivolume set, the Backup Utility (BACKUP) displays a "BACKUP-I-READYWRITE" request message when it is ready for a new volume. The operator mounts a new tape and acknowledges the request. BACKUP then proceeds normally.

If the operator does not place a write ring in the second or any subsequent volume of the set, BACKUP displays a "BACKUP-I-WRITENABLE" request message. The operator removes the tape, places a write ring in, reloads the tape, and acknowledges the request. BACKUP then proceeds normally.

If, however, the tape drive uses Tape Mass Storage Control Protocol (TMSCP) (as is the case with a TA78, TU81, TA81, or TK50 tape drive), BACKUP displays another "BACKUP-I-READYWRITE" request message after the operator acknowledges the "BACKUP-I-WRITENABLE" request message. BACKUP continues to reissue the same request, even though the operator responds with an affirmative reply to each request. There seems to be no way to recover, other than to abort the BACKUP procedure and restart it.

RESPONSE

This problem is corrected in VAX/VMS Version 4.4. In the interim, use the command SET MAGTAPE/UNLOAD, rather than restart the entire BACKUP procedure. This command can be issued from another process that has the /SHARE privilege. BACKUP then proceeds, following the next affirmative reply to the "BACKUP-I-READYWRITE" request message.

NOTE

Please refer to article Seq. 55.20.10 in the Republished Articles section of this issue for additional information on this subject.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 32.25.2
PRODUCT: VAX/VMS
COMPONENT: XDDRIVER

XDDRIVER link cancellation crashes system

PROBLEM
STATEMENT

Certain programs that transmit data using the DMV-11 cause the driver to hang. Also, if these same programs are aborted during transmission, a system crash in the network ancillary control process (NETACP) results.

RESPONSE

This problem is fixed in VAX/VMS Version 4.4.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 33.5.2
PRODUCT: VAX/VMS
COMPONENT: CTDRIVER

Remote process enters an RWAST state

PROBLEM
STATEMENT

If a user performs a SET HOST operation to a machine running VAX/VMS Version 4.2 and attempts to write a record which exceeds the process's buffered I/O byte count quota, the remote process enters a resource-wait asynchronous system trap (RWAST) state before completing the operation.

If the same operation is performed by a local process, the I/O terminates with the message:

%SYSTEM-F-EXQUOTA, exceeded quota.

RESPONSE

Since the remote terminal driver CTDRIVER splits large records into several smaller packets for transmission, the proper byte count is never compared against the quota. Hence, CTDRIVER enters a resource wait state when it eventually exceeds the remote processes' quota.

We expect to correct this problem in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 33.20.9
PRODUCT: VAX/VMS
COMPONENT: TTDRIVER

Frame size characteristic is not set to 5

PROBLEM
STATEMENT

Frame size characteristics for the VAX/VMS terminal driver TTDRIVER.EXE consist of values 5 through 8. However, the terminal driver does not properly set the frame size characteristic to 5, as specified in the following command:

```
$ SET TERMINAL/FRAME=5
```

RESPONSE

This problem is corrected in VAX/VMS Version 4.4.

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: TTDRIVER

Seq. 33.20.10

Autobauding writes to line 0

PROBLEM
STATEMENT

Autobauding on a terminal line other than line 0 causes unwanted characters on line 0.

RESPONSE

The autobauding code can clear the line number associated with certain data that will be output to a specific line. Since the line number is being incorrectly set to zero, the data will be sent to line 0 instead.

We expect to correct this problem in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 34.40.2
PRODUCT: VAX/VMS
COMPONENT: PADRIVER

Systems Communication Services hang

PROBLEM
STATEMENT

A cluster node hangs when recovering from an HSC50 reboot. A forced crash and reboot of the node clears the hung state.

RESPONSE

The crash dumps might show that the Systems Communications Services (SCS) is hung. Use of the command SHOW CONNECTIONS in the ANALYZE/CRASH Utility shows connections in states other than "open" or "listen". Abnormal states such as "con_sent" and "dcr_pend" should clear within seconds. If not, these states indicate a loss of SCS control messages.

A problem in the CI port driver (PADRIVER) can cause the loss of SCS control messages. This problem is fixed in VAX/VMS Version 4.3.

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: MOUNT

Seq. 40.30.5

MOUNT ignores device Access Control Lists

PROBLEM STATEMENT

The Mount Utility (MOUNT) and the $MOUNT system service ignore device Access Control Lists (ACLs).

For example, a nonprivileged user (that is, a user with a UIC other than [1,*]) can still mount a volume on a device even though the following ACLs are set up for this device:

```
(IDENTIFIER=[1,*],OPTIONS=DEFAULT,ACCESS=READ+WRITE+EXECUTE
+DELETE+CONTROL)
(IDENTIFIER=[*,*],OPTIONS=NONE,ACCESS=NONE)
```

RESPONSE

The $MOUNT system service grants itself BYPASS privilege to access the necessary files (for example, the index file and the bitmap file) when mounting a volume. The problem described above is caused by the $MOUNT system service granting the BYPASS privilege too early, thus bypassing the device ACL's protection checks.

This problem was corrected in VAX/VMS Version 4.2.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 40.45.18
PRODUCT: VAX/VMS
COMPONENT: RMS

SYS$SETDDIR alters default directory only

PROBLEM STATEMENT

The documentation for SYS$SETDDIR in the VAX Record Management Services Reference Manual indicates that both the default device and directory might be altered with this service. In fact, only the current default directory is altered.

RESPONSE

The documentation is incorrect. SYS$SETDDIR is intended to set the default directory only and not to change the default device name. This behavior has not changed from VAX/VMS Version 3.n.

The default device name is defined to be the translation of the logical name SYS$DISK. Therefore, redefining this logical will change the current default device.

We expect to correct the documentation in a future update of the VAX Record Management Services Reference Manual.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 55.10.15
PRODUCT: VAX/VMS
COMPONENT: AUTHORIZE

Privilege category must consider default privilege

PROBLEM
STATEMENT

The privilege category in the Authorize Utility (AUTHORIZE) listing depends on the authorized privileges. This causes confusion when the set of default privileges contains powerful privileges, such as BYPASS.

RESPONSE

We expect to correct this problem in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 55.20.12
PRODUCT: VAX/VMS
COMPONENT: BACKUP

INTERCHANGE does not suppress directory copying

PROBLEM
STATEMENT

The VAX/VMS Backup Utility Reference Manual states that using the /INTERCHANGE qualifier causes the Backup Utility (BACKUP) to suppress copying of directory files. This qualifier does not work as documented; it does not suppress copying of directory files.

RESPONSE

We expect to correct this error in BACKUP in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 55.20.13
PRODUCT: VAX/VMS
COMPONENT: BACKUP

OPCOM REPLY/ABORT fails to abort BACKUP

PROBLEM STATEMENT

When the Backup Utility (BACKUP) runs as a batch process, requests for second (and subsequent) volumes are relayed to the operator through OPCOM. The operator cannot cleanly abort the backup operation by responding with REPLY/ABORT. BACKUP repeatedly requests the next volume through OPCOM.

RESPONSE

This problem occurs because BACKUP currently masks out the severity before it signals the OPCOM abort reply. We expect to correct this problem in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 55.20.14
PRODUCT: VAX/VMS
COMPONENT: BACKUP

Density changes on multivolume save set

PROBLEM
STATEMENT

If the following BACKUP command requires more than one volume, subsequent volumes will be written at the system default density rather than at 6250 bpi:

```
$ BACKUP *.* MUA0:SAVESET.NAME/REWIND/DENSITY=6250
```

All tapes were preinitialized to 6250 bpi.

RESPONSE

This problem was corrected in VAX/VMS Version 4.2.

Please note that this problem occurs only on TMSCP tape drives (TU81, TA78, TA81, and TK50). A workaround is to specify the following command prior to entering the BACKUP command:

```
$ SET MAGTAPE/DENSITY=6250 MUA0:
```

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 55.20.15
PRODUCT: VAX/VMS
COMPONENT: BACKUP

BACKUP journal file corruption

PROBLEM
STATEMENT

There is an error in the way the Backup Utility (BACKUP) handles BACKUP journal file processing.

If the journal file contents end exactly on a disk-block boundary, the journal file is corrupted when an attempt is made to append it. Data might be lost and spurious output might result from an examination of the journal file contents.

RESPONSE

Journal file processing worked incorrectly when the length of the journal file was a multiple of 512 bytes.

This problem was corrected in VAX/VMS Version 4.2.

OPERATING SYSTEM: VAX/VMS V4.2 Seq. 55.20.16
PRODUCT: VAX/VMS
COMPONENT: BACKUP

Incorrect error message from BACKUP

PROBLEM
STATEMENT

A spurious error can occur when a file is selected for restoration from a multivolume image save set. Since the file is known to be on a volume other than the first of the set, that volume is mounted on the drive for reading. Backup Utility (BACKUP) signals the severe error FIDERROR, indicating an unexpected change in file ID.

Since the file is restored successfully, the error severity should be a warning at most.

RESPONSE

We expect to correct this problem in a future update of VAX/VMS.

The error message FIDERROR is designed to be used to signal the occurrence of a severe error condition. If, during the restoration of a file, a new volume is placed on the drive (in response to a request) and that volume contains data which is inconsistent with the current state of BACKUP, the error condition is detected by an unexpected change in the file ID of the file currently being restored. A record is prefixed to each BACKUP block, summarizing the contents of that block.

In the case where the first volume was never mounted, the first summary record on the volume currently being read pertains to whatever data was split over the volume boundary. Therefore, the summary information on the new volume never matched the "old" information from the context of the previous volume because there was no previous volume from which to establish context. (Note that the message is issued even if the file selected is not

on the volume.) Consequently, both the severity of the message and the issuance of the error message are inappropriate in this situation.

The correction to BACKUP is to ensure that any context from a previous volume is valid before issuing the FIDERROR message.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 56.5.2
PRODUCT: VAX/VMS
COMPONENT: INITIALIZE

INITIALIZE does not use software bad block area

PROBLEM
STATEMENT

The Initialize Utility (INITIALIZE) does not make use of the software-detected bad block area left by the ANALYZE/MEDIA command.

RESPONSE

This problem is corrected in VAX/VMS Version 4.4.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 56.40.3
PRODUCT: VAX/VMS
COMPONENT: MONITOR

Problems with virtual memory

PROBLEM
STATEMENT

Monitor Utility's (MONITOR) virtual memory size continuously increases. If a process runs MONITOR for a sufficient length of time, it eventually terminates with an insufficient virtual memory error.

RESPONSE

In the Run Time Library screen package that MONITOR uses, the amount of virtual memory deallocated is less than the actual amount allocated. This causes the process's virtual page count to increase continuously until MONITOR fails with the insufficient virtual memory error.

This problem was fixed in VAX/VMS Version 4.2.

OPERATING SYSTEM: VAX/VMS V4.1
PRODUCT: VAX/VMS
COMPONENT: MONITOR

Seq. 56.40.4

Problem with XQP data

PROBLEM
STATEMENT

The average statistic for disk read rate on the "File Primitive Statistics" screen is extremely high, and the maximum statistic shows "********.00".

RESPONSE

A problem in the XQP causes this condition. In VAX/VMS Versions 4.0 and 4.1, the XQP occasionally writes ASCII text over the performance counters which MONITOR eventually picks up. The "********" in the maximum statistic indicates that the data for that field either overflowed the longword or is negative.

This problem was fixed in VAX/VMS Version 4.2.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 56.40.5
PRODUCT: VAX/VMS
COMPONENT: MONITOR

INTERVAL does not work as documented

PROBLEM
STATEMENT

The following command creates a Monitor Utility (MONITOR) recording file with PROCESS and MODES data:

```
$ MONITOR/INTERVAL=60/RECORD/NODISPLAY/BEGIN="00:10:25" -
    /ENDING="+00:30:00" -
    /COMMENT="Testing for CCS ....interval = 60 seconds" -
    PROCESS/TOPCPU,MODES
```

When this is completed, the following commands are used to process the data:

```
$ MONITOR/INPUT=MONITOR.DAT/DISPLAY=TOPMON.001/INTERVAL=60 -
    PROC/TOPCPU
$ MONITOR/INPUT=MONITOR.DAT/DISPLAY=MODMON.001/INTERVAL=60 -
    MODES
```

This works properly. The time displayed in the MODES output is exactly the same as the CPU time for the NULL process in the PROCESS/TOPCPU output.

If the following commands are used to process the same data, unexpected results are displayed:

```
$ MONITOR/INPUT=MONITOR.DAT/DISP=TOPMON.002/INTERVAL=600 -
    PROC/TOPCPU
$ MONITOR/INPUT=MONITOR.DAT/DISP=MODMON.002/INTERVAL=600 -
    MODES
```

With these commands, the TOPMON output appears to be the average over the 600-second interval, but the MODMON output appears to be the average over the last 60 seconds of 600-second interval (that is, the 10th screen from the original display). This behavior is not documented in the VAX/VMS Monitor Utility Reference Manual.

RESPONSE

For all classes except the TOP PROCESS class, statistics are computed at collection intervals. For playback requests, a collection event occurs each time a new interval is encountered in the input file.

In the above example, this interval is 60 seconds; 10 of the original collection intervals are encountered before the new playback interval is ready. At this point, MONITOR displays the current statistics for the last interval encountered in the input file (that is, the last 60 seconds of data). What is desired is to compute the requested statistics over the entire collection period (600 seconds), regardless of the original collection interval.

Statistics are computed differently for the TOP PROCESS class. TOP PROCESS statistics are computed when the next display event is encountered. In the above example, 10 of the original collection intervals are encountered before the new interval is ready. The TOP PROCESS class computes the desired statistics over the new collection interval rather than the interval used in the original recording. This is the desired method.

This is a limitation in MONITOR which is not documented. An update to the VAX/VMS Monitor Utility Reference Manual will be supplied in a future update of VAX/VMS.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 56.52.2
PRODUCT: VAX/VMS
COMPONENT: PURGE

PURGE handles related files incorrectly

PROBLEM
STATEMENT

The PURGE command does not handle related file specifications correctly under VAX/VMS Version 4.1. For example, the following command purges all file types in SYS$MANAGER as well as *.LOG in SYS$LOGIN:

```
$ PURGE/LOG   SYS$LOGIN:*.LOG,SYS$MANAGER
```

RESPONSE

This problem was corrected in VAX/VMS Version 4.2.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 56.80.8
PRODUCT: VAX/VMS
COMPONENT: SET HOST

DF112 support in SET HOST/DTE/DIAL

PROBLEM
STATEMENT

SET HOST/DTE/DIAL should support modem types other than DF03.

RESPONSE

As of VAX/VMS Version 4.2, SET HOST/DTE/DIAL supports the DF112. For example, the following command can be used:

```
$ SET HOST/DTE/DIAL=(NUMBER:5551234#,MODEM:DF112) TTA2:
```

Note that the pound sign (#) is required in the phone number to activate the DF112 autodialer.

This information did not appear in the VAX/VMS DCL Dictionary, Version 4.2, but will be added in a future update.

Also, it is possible to add user-written support for other modem types. Consult SYS$EXAMPLES:DTE_DF03.MAR for more information.

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 65.5.39
PRODUCT: VAX/VMS
COMPONENT: DOCUMENTATION

PURGE KNOWN NODES command also purges executor

PROBLEM
STATEMENT

Use of the Network Control Program (NCP) command PURGE KNOWN NODES also purges the executor database. This fact is not documented adequately.

RESPONSE

A description of this situation has been added to the VAX/VMS Network Control Program Reference Manual, Version 4.4.

OPERATING SYSTEM: VAX/VMS V4.1 Seq. 65.5.40
PRODUCT: VAX/VMS
COMPONENT: DOCUMENTATION

Insufficient information on identifiers

PROBLEM STATEMENT

The documentation on group identifiers is inadequate. The following information should be included:

1. A group identifier is a user identification code (UIC) identifier, not a general identifier.
2. The member number is the wildcard value FFFF, so that a group identifier "matches" any UIC in the group.
3. The syntax for specifying the value of a group identifier is [grp_no,*].

RESPONSE

There is some confusion about the meaning and the use of the term "group identifier". It was used in the Introduction to VAX/VMS to demonstrate the similarity between the left parts of UICs with numbers (like [030,677]) and UICs with names (like [ACCOUNTANTS, JONES]). For example, "030" would be considered the group number and "ACCOUNTANTS" would be considered the group name. The term "group identifier" was introduced in an attempt to clarify the concept. In this case, "group identifier" would refer to "030" and "ACCOUNTANTS".

Some of the confusion might arise because VAX/VMS documentation does not support the term "group identifier," whereas, it does support the term "identifier." An identifier is the basic component of the VAX/VMS protection scheme. It is a 32-bit binary value that represents various types of agents using the system. The types of agents represented include individual users, groups of users, and environments in which a process is operating.

There are three types of identifiers:

1. UIC identifiers
2. General identifiers
3. System-defined identifiers

For detailed information about these identifiers, please refer to the following manuals:

1. VAX/VMS System Services Reference Manual, Version 4.0, page 3-2 (Overview of VAX/VMS Protection Scheme).
2. VAX/VMS DCL Dictionary, Version 4.0, Chapter 7 (Protection).
3. Guide to VAX/VMS System Security, Version 4.0, Section 4.3 (Access Control Lists).

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 70.15.1
PRODUCT: VAX DEC/CMS V2.0 & V2.1
COMPONENT: CMS

CMS library can become corrupted - fixes in V2.2

PROBLEM STATEMENT

Two circumstances can cause a CMS library to become corrupted. First, running out of any needed resource at the wrong time can leave the CMS library in an inconsistent state. Second, there is also a very slight chance that CMS REPLACE can lose lines from an element.

RESPONSE

Running out of resources

The user should be especially aware of the possibility of running out of disk space or disk quota. These problems are highly visible, usually signaled by an error message, and can be handled by CMS VERIFY after the shortage has been corrected. The best way to avoid these problems is to ensure that quotas and resources are adequate for all users. Section C.3 of the CMS Reference Manual identifies several quota requirements. We plan to address these problems in releases after CMS Version 2.1. They will not all be corrected in CMS Version 2.2.

CMS REPLACE may lose lines of a file

There is also a very slight chance that CMS REPLACE can lose lines from an element. No indication is given at the moment this problem occurs. In some cases, a subsequent FETCH or RESERVE detects the error as a checksum error and issues the BADCRC message. In other cases, there is no indication that the output of RESERVE is different from the input to the previous REPLACE.

This problem can occur only if all three of the following conditions are true:

1. The element contains a variant line of descent.

2. The element is large enough to exceed the capacity of an internal buffer.

3. A very large change of a minimum of several hundred lines is made.

The buffer holds at least 800 data and control records or 20,000 characters. Even if all three conditions are true, the problem appears only if certain lines appear at certain places in that large internal buffer.

The CMS development group is aware of fewer than ten instances of the problem. All have been detected in the last few months.

A correction to fix this problem is included in CMS Version 2.2.

Further instances of the problem can be avoided by not making large changes all at once. If a large change is needed, insert perhaps 100 lines and then REPLACE the element. Use as many smaller changes as necessary to accomplish a large change. REPLACE /RESERVE can make this easy to do.

Users who have made large changes and have variants might want to check their CMS libraries. CMS VERIFY cannot detect the missing lines. The CMS development group will determine if VERIFY can be enhanced in a future version to detect the missing lines.

Several means might be available in the field to determine that a suspect generation in a CMS library is good or corrupted. First, FETCH the suspect generation. The original file might still be available either on line or from a backup. Compare them. If the original is not available, a derived file, such as a .lis, .obj, or .mem, might be available. Process the fetched file and compare the results.

If any instances of lost lines are found, please submit an SPR with sufficient machine-readable information to reproduce the problem, specifically the 00CMS.CMS control file, the element file, and a command file that demonstrates the problem.

REPUBLISHED ARTICLES

OPERATING SYSTEM: VAX/VMS V4.0 Seq. 55.20.10
PRODUCT: VAX/VMS
COMPONENT: BACKUP

TMSCP-class tape cannot restart

PROBLEM STATEMENT

When a parity error is detected on a Tape Mass Storage Control Protocol (TMSCP) drive and the Backup Utility (BACKUP) detects the error, the operation is not restartable by the BACKUP RESTART option.

The problem also occurs if the operator mounts a write-locked tape when a write-enabled tape is requested by BACKUP. When the operator corrects the error by remounting a write-enabled tape, BACKUP repeatedly requests a write-enabled tape.

RESPONSE

These corrections appear in VAX/VMS Version 4.4.

NOTE

Please refer to article Seq. 31.65.2 in the Known Problems and Responses section of this issue for additional information on this subject.

CUMULATIVE INDEX

VAX/VMS SYSTEMS DISPATCH
CUMULATIVE INDEX FOR VAX/VMS V4.n
MAY 1986

Following is a cumulative listing of articles for VAX/VMS V4.n and layered products.

The following list is designed so that in future issues it can be expanded. Consequently, there are several numbers "reserved" for that purpose. Also, within each category the numbering scheme allows for expanding the primary category to include related subsets. For example, under 55.0, Utilities, 55.35 is used for the COPY utility, 55.60 is used for the DIFFERENCES utility, etc. Periodically, the components list is reviewed to insure that it accommodates the current software needs.

R = indicates a republished article
F = indicates problem was fixed in one of the Versions between 4.0 and 4.4

Component/ Product	Sequence Number	Title of Article	Operating System	Mon/Yr	
	1.0	NEWS BULLETIN SECTION			
NEWS BULLETIN	1.1.1	IMPORTANT VAX/VMS VERSION 4.2 INFORMATION	V4.2	Sep 85	
	1.1.2	IMPORTANT VAX/VMS VERSION 4.2 INFORMATION	V4.2	Nov 85	
	1.1.3	IMPORTANT VAX/VMS VERSION 4.2 INFORMATION	V4.2	Nov 85	
	1.1.4	PATCH KIT FAILS TO INSTALL AFTER VERSION 4.2 UPGRADE	V4.2	Mar 86	
	1.1.5	PROBLEM IN VAX/VMS DATA ENCRYPTION FACILITY		Mar 86	
	1.1.6	IMPORTANT VAX/VMS VERSION 4.n INFORMATION	V4.n	May 86	
	5.0	EXECUTIVE & SYSTEM SERVICES SECTION			
IMAGE ACTIVATOR	5.5.1	IMAGE INSTALLED AS /SHARE REQUIRES WORLD:R ACCESS	V4.0	Nov 85	F
SYS	5.20.1	F$GETDVI INFORMATION INVALID IF DISK NOT MOUNTED	V4.0	Jul 85	
	5.20.2	EXCESSIVE MODIFIED PAGE LIST WRITING	V4.0	Jul 85	
	5.20.3	GETJPI PROC_INDEX VALUE	V4.0	Jul 85	
	5.20.4	SHUTDOWN WITH REBOOT_CHECK CAN FAIL	V4.0	Jul 85	F
	5.20.5	TODR DEFINITION REMOVED IN VAX/VMS VERSION 4.0	V4.0	Jul 85	F
	5.20.6	SCREEN MANAGEMENT SYMBOLS DEFINED INCORRECTLY	V4.0	Jul 85	F
	5.20.7	TEMPORARY MAILBOX LOGICAL NAMES	V4.0	Jul 85	
	5.20.8	LACK OF DISK QUOTA CAUSES ERRFMT TO FAIL	V4.0	Sep 85	
	5.20.9	GETJPI ("","TERMINAL") TRUNCATES NAMES	V4.0	Sep 85	F
	5.20.10	CANNOT ALLOCATE OFFLINE DEVICE	V4.0	Nov 85	F
	5.20.11	DETACHED PROCESSES FAIL TO ACTIVATE	V4.1	Nov 85	
	5.20.12	MISSING .EXTERNAL DIRECTIVE IN $FAO_S MACRO	V4.0	Nov 85	
	5.20.13	F$LOGICAL AND USER-CREATED NAME TABLES	V4.0	Nov 85	
	5.20.14	RSX.EXE AND IMAGE ACCOUNTING	V4.1	Jan 86	
	5.20.15	MAILBOXES AND LOGICAL NAMES	V4.0	Mar 86	
	5.20.16	CLUSTER $BRKTHRU FUNCTION	V4.1	May 86	
	5.20.17	P1V PARAMETER DOES NOT FUNCTION CORRECTLY	V4.1	May 86	F

Component/ Product	Sequence Number	Title of Article	Operating System	Mon/Yr
	7.0	SYSTEM LIBRARIES SECTION		
STARLET	7.30.1	EXAMPLE PROGRAM GETS LINK ERRORS	V4.1	Nov 85
	10.0	SYSTEM MANAGEMENT, OPERATIONS & SECURITY SECTION		
ACCOUNTING	10.5.1	PROBLEMS WITH ACCOUNTING SELECTION BY UIC	V4.0	Jul 85 F
	10.5.2	USER RECORD DISPLAYS SCROLL OFF SCREEN	V4.0	Jul 85 F
	10.5.3	IMAGE NAMES NOT CLEARED IN ACCOUNT/FULL	V4.1	Mar 86 F
STARTUP	10.15.1	TERMINAL LOGICAL NAMES IN UVSTARTUP.COM	V4.0	Sep 85 F
	10.15.2	ERROR IN MicroVMS SYSTARTUP	V4.0	Nov 85 F
	11.0	OPERATIONS SECTION		
LOGINOUT	11.15.1	INCORRECT VALIDATION OF MAXJOBS	V4.0	Sep 85 F
	11.15.2	DEFCLI PROHIBITS CLI TABLE CHANGE IN SPAWN	V4.0	Sep 85
	11.15.3	NETWORK JOBS NOT COUNTED AGAINST MAXJOBS	V4.1	Sep 85
SYSBOOT	11.30.1	TOPSYS SYSTEM ROOT IS INCORRECT	V4.0	Sep 85
SYSGEN	11.35.1	DISCREPANCY IN SCSNODE NAME LENGTH	V4.0	Jul 85
	11.35.2	LONG FILE SPECIFICATION CORRUPTS DDB	V4.0	Jan 86 F
	11.35.3	WRONG MESSAGE SETTING SYSGEN PARAMETER TOO LOW	V4.1	Jan 86 F
SYSINIT	11.40.1	QUOTA CACHING DISABLED ON THE SYSTEM DISK	V4.0	Jul 85 F
	11.40.2	SYSUAF.DAT REDEFINED FOR BYPASS AT LOGIN	V4.0	Sep 85 F
	11.40.3	DUPLICATE SYSTEM DISK LABEL NAMES PREVENT BOOTING	V4.0	May 86
	12.0	SOFTWARE INSTALLATION SECTION		
UPGRADE	12.10.1	CVTUAF DOES NOT COPY USER DATA AREA	V4.0	Jul 85 F
	12.10.2	VMSINSTAL FAILS DURING VERSION 4.0 UPGRADE ON TU81	V4.0	Jul 85 F
VMSINSTAL	12.15.1	VMIBCKERR.TMP INADVERTENTLY PLACED IN SAVE SET	V4.0	Jul 85 F
	12.15.2	VMSINSTAL GET OPTION FAILS ON VERSION 4 UPDATE	V4.0	Sep 85 F
	12.15.3	VMSINSTAL OPTION G INITIALIZES INCORRECTLY	V4.1	Mar 86 F
	13.0	SECURITY SECTION		
SECURITY	13.5.1	ACL PROTECTION OF GLOBAL SECTIONS	V4.0	Nov 85 F
	15.0	BATCH, PRINT, JOB CONTROLLER SECTION		
JOBCTL	15.15.1	SNDSMB WITH FILESIZ OPTION FAILS	V4.0	Jul 85 F
	15.15.2	JOB CONTROLLER SIGNALS AN INVALID BLOCK ERROR	V4.1	Jan 86 F
	15.15.3	NO PROCESS SLOTS CAUSES JOBCTL TO ABORT	V4.1	Mar 86 F
	15.15.4	SET QUEUE/ENTRY/RELEASE COMMAND WORKS INCORRECTLY	V4.2	May 86 F
PRINT	15.25.1	SYMBIONT ISSUES BLANK PAGES WITH /SETUP	V4.0	Jul 85
	15.25.2	SUGGESTION FOR DEFAULT FORM FOR EACH QUEUE	V4.0	Jul 85 F
	15.25.3	PRINT/NOFLAG DOES NOT OVERRIDE /SEPARATE=FLAG	V4.0	Nov 85

Component/ Product	Sequence Number	Title of Article	Operating System	Mon/Yr	
PRINT SYMBIONT	15.30.1	HOW TO PRINT HEADERS IN 80-COLUMN FORMAT	V4.0	Jul 85	
	15.30.2	UNEXPECTED SYMBIONT PROCESS TERMINATION	V4.1	Jul 85	F
	15.30.3	CANNOT BYPASS ALL FORMATTING IN PRINT SYMBIONT	V4.0	Sep 85	F
	15.30.4	PRINT SYMBIONT ALLOCATES OUTPUT DEVICE	V4.0	Sep 85	
	15.30.5	MULTIPLE PAGE HEADERS GENERATED BY PLOT	V4.1	Sep 85	
	15.30.6	LOSS OF PRINT JOB WHEN CARRIER IS DROPPED	V4.1	Sep 85	
	15.30.7	FILE LEFT OPEN BY PRINT SYMBIONT	V4.1	Sep 85	
	15.30.8	IMPLICIT SPOOLING RESTRICTS USER	V4.0	Sep 85	
	15.30.9	PRINT SYMBIONT PERFORMS TAB EXPANSION	V4.0	Sep 85	F
	15.30.10	PRINT SYMBIONT PROCESS TERMINATION	V4.1	Sep 85	F
	15.30.11	PRINT SYMBIONT ENTERS COMPUTE LOOP	V4.1	Sep 85	F
	15.30.12	MISCELLANEOUS PROBLEMS IN PRINT SYMBIONT	V4.1	Sep 85	F
	15.30.13	SERIAL PRINTERS ON DMF DISCONNECT	V4.0	Sep 85	F
	15.30.14	PRINTER SUPPORT FOR ESCAPE SEQUENCE CHARACTER	V4.0	Jan 86	F
	15.30.15	PROBLEMS MODIFYING SYMBIONT INPUT FILTER	V4.1	Jan 86	F
	15.30.16	IMPLICIT SPOOLING IS INFLEXIBLE	V4.1	Jan 86	
QUEMAN	15.35.1	INCORRECT OPERATION OF SUBMIT/AFTER/PRIORITY	V4.1	Jan 86	F
	20.0	DCL SECTION			
DCL	20.5.1	CAPTIVE ACCOUNT CAUSES LOGINOUT ACCESS VIOLATION	V4.0	Sep 85	F
	20.5.2	CANNOT CHANGE/EXAMINE LOGICAL NAME TABLE PROT	V4.0	Sep 85	F
	20.5.3	LGICMD=NL: DISABLES VERIFICATION	V4.0	Nov 85	F
	20.5.4	RUN/INTERVAL DOES NOT WORK IF TIME > 24 HOURS	V4.1	Nov 85	
	20.5.5	CTRL/T TRUNCATES LONG FILE NAMES	V4.1	Nov 85	
	20.5.6	LIB$SPAWN ('RUN/DELAY...') DOES NOT WORK	V4.1	Nov 85	
	20.5.7	REDEFINING SYS$OUTPUT LOCKS FILE	V4.1	Nov 85	
	20.5.8	DATA STREAM NOT TREATED AS INPUT DATA	V4.1	Mar 86	
	25.0	DECnet SECTION			
DECnet	25.5.1	NETWORK JOBS USE DEFAULT DCLTABLES	V4.0	Jul 85	
	25.5.2	SPURIOUS NODE UNREACHABLE ERRORS	V4.0	Jul 85	
	25.5.3	STARTNET.COM INCORRECTLY PARSES NODE ADDRESS	V4.0	Jul 85	
	25.5.4	STARTNET.COM FAILS TO CHECK FOR ALTPRI PRIVILEGE	V4.0	Jul 85	
	25.5.5	STREAM_LF FILE TRANSFER HANGS TO NON-VMS PARTNERS	V4.0	Sep 85	
	25.5.6	DECnet GIVES INCORRECT ERROR ON INVALID USER NAME	V4.1	Sep 85	
	25.5.7	PROXY ACCOUNT CHANGE DELAYED	V4.0	Nov 85	
	25.5.8	RECEIVE BUFFERS AND STATIC ASYNCHRONOUS LINES	V4.1	Nov 85	
	25.5.9	RMS CANNOT ALWAYS PARSE SYS$NET	V4.1	Nov 85	
	25.5.10	ACCESS VIOLATION RETURNED ON READ REQUEST	V4.1	Jan 86	
	25.5.11	AREAS LEFT UNREACHABLE	V4.1	Jan 86	
	25.5.12	ASYNCH LINE OR CIRCUIT PARAMETERS VANISH	V4.2	Mar 86	
	25.5.13	INVALID ALARM FROM DECnet	V4.1	Mar 86	
	25.5.14	DECnet HANGS UP WHEN TIME IS SET BACK	V4.0	May 86	
	25.5.15	NODES IN DIFFERENT AREAS ARE UNREACHABLE	V4.1	May 86	
NCP	25.45.1	NCP SHOW KNOWN LOGGING ACCESS VIOLATION	V4.2	Mar 86	F
RTPAD	25.65.1	CTERM ESCAPE AND CTRL/E ECHOING	V4.1	Jan 86	F

Component/ Product	Sequence Number	Title of Article	Operating System	Mon/Yr	
EVL	25.20.1	EVL EXITS WITH RESULTANT STRING OVERFLOW ERROR	V4.1	Nov 85	
	31.0	DISK & TAPE DRIVERS SECTION			
DDDRIVER	31.10.1	TU58 TIMES OUT WHEN /DATA_CHECK=WRITE IS USED	V4.0	Sep 85	F
	31.10.2	VAX-11/750 CONSOLE TU58 OCCASIONALLY TIMES OUT	V4.1	Nov 85	
TFDRIVER	31.50.1	INCORRECT POSITION AFTER ERROR RECOVERY	V4.1	May 86	
	31.50.2	INCORRECT DENSITY QUALIFIER YIELDS NO ERROR	V4.2	May 86	
TMDRIVER	31.55.1	EOT BIT NOT PROPERLY SET IN DEVDEPEND	V4.1	May 86	
TUDRIVER	31.65.1	DENSITY CHANGES ON MULTIVOLUME SET	V4.0	May 86	F
	31.65.2	MULTIVOLUME BACKUP ON TMSCP DRIVES	V4.1	May 86	
	32.0	NET DRIVERS SECTION			
NETDRIVER	32.15.1	ACCESS VIOLATION WITH LARGE NETWORK BUFFER	V4.1	Nov 85	F
NODRIVER	32.20.1	DECnet LINES ENTER ON-SYNCHRONIZING STATE	V4.0	Nov 85	
XDDRIVER	32.25.1	DEVICE FULL ERROR WHEN INITIALIZING DMP-11	V4.0	Jul 85	F
	32.25.2	XDDRIVER LINK CANCELLATION CRASHES SYSTEM	V4.1	May 86	
XEDRIVER	32.30.1	VARIOUS PROBLEMS WITH XEDRIVER	V4.0	Jan 86	
	32.30.2	VARIOUS PROBLEMS WITH XEDRIVER	V4.0	Jan 86	
YQDRIVER	32.45.1	YQDRIVER CORRUPTS NONPAGED POOL	V4.0	Jul 85	F
	33.0	TERMINAL DRIVERS SECTION			
CTDRIVER	33.5.1	RWAST STATE AFTER DEASSIGN OR HANGUP	V4.1	Jan 86	F
	33.5.2	REMOTE PROCESS ENTERS AN RWAST STATE	V4.1	May 86	
TTDRIVER	33.20.1	VT200 NOT DEFINED IN $DCDEF	V4.0	Jul 85	
	33.20.2	DMA NOT SET ON DMF-32 LINES	V4.0	Jul 85	
	33.20.3	DMF32 SLOW TO PROCESS XON/XOFF	V4.0	Jan 86	F
	33.20.4	SET TERMINAL/INQUIRE ON VT102	V4.2	Mar 86	F
	33.20.5	TT$M_MBXDSABL IGNORED	V4.0	Mar 86	F
	33.20.6	STATUS RETURN FROM MODEM HANGUP	V4.0	Mar 86	
	33.20.7	EXTRA CHARACTERS WITH TIMEOUT READ	V4.1	Mar 86	F
	33.20.8	READ/VERIFY WITH CLEAR CHARACTER FROM FMS	V4.1	Mar 86	
	33.20.9	FRAME SIZE CHARACTERISTIC IS NOT SET TO 5	V4.1	May 86	F
	33.20.10	AUTOBAUDING WRITES TO LINE 0	V4.1	May 86	F
YCDRIVER	33.25.1	DMF32 REQUIRES CARRIER	V4.0	Mar 86	
	34.0	OTHER DRIVERS SECTION			
LCDRIVER	34.16.1	PRINTER PROBLEMS AFTER POWER FAILURE	V4.0	Nov 85	F
LPDRIVER	34.20.1	SYSTEM-F-EXQUOTA ERROR ON PRINTOUT	V4.0	Jul 85	

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LTDRIVER	34.25.1	LAT SERVER AND DEVICE NAMES UNAVAILABLE	V4.0	Nov 85
	34.25.2	LAT HOST RATING RESTRICTION	V4.1	Jan 86
PADRIVER	34.40.1	CI VIRTUAL CIRCUIT HUNG IN VC_FAIL STATE	V4.1	Jan 86 F
	34.40.2	SYSTEMS COMMUNICATION SERVICES HANG	V4.1	May 86 F
XFDRIVER	34.54.1	PARITY ERROR WHEN LOADING MICROCODE FOR DR32	V4.0	Jan 86 F
	35.0	EDITORS SECTION		
EDIT/ACL	35.5.1	EDIT/ACL DELETES ACE GRANTING ACCESS	V4.0	Sep 85 F
	35.5.2	PROBLEM IN REFRESH LOGIC CAUSES ACCESS VIOLATION	V4.0	Sep 85 F
	35.5.3	MISSING STATUS RETURN	V4.0	Sep 85 F
	35.5.4	VARIOUS PROBLEMS WITH THE ACL EDITOR	V4.1	Jan 86
	35.5.5	CURSOR POSITION INCORRECT AFTER LINE SPLIT	V4.1	Mar 86 F
	35.5.6	INCORRECT PROTECTION ON JOURNAL FILE	V4.1	Mar 86 F
EDIT/FDL	35.10.1	<RETURN> AND <CTRL/Z> RETURN TO MAIN MENU	V4.1	Nov 85
	40.0	FILE SYSTEMS AND RMS SECTION		
ACL	40.2.1	PROBLEMS WITH XQP-GENERATED ACE	V4.1	Mar 86 F
	40.2.2	ERROR MESSAGE POSITIONING IS INCORRECT	V4.1	Mar 86 F
	40.2.3	XQP-GENERATED ACE NOT ALWAYS ADDED	V4.1	Mar 86 F
CONVERT	40.5.1	CONVERT/RECLAIM MAY ACCESS VIOLATE	V4.0	Sep 85 R
	40.5.2	CONVERT CAN INCORRECTLY REPORT DUP AND SEQ ERRORS	V4.0	Sep 85 R F
	40.5.3	CONVERT INCORRECTLY RETURNS RTL ERROR	V4.0	Sep 85 R
	40.5.4	SIMULTANEOUS CONVERT OPERATIONS MIGHT FAIL	V4.1	Jan 86 F
F11AACP	40.10.1	MOUNT VERIFICATION FAILS FOR ODS-1 VOLUMES	V4.1	Jan 86 F
MOUNT	40.30.1	MOUNT ALLOCATES DEVICE TO PARENT PROCESS	V4.0	Nov 85
	40.30.2	MOUNT/NOLABEL FAILS WITH BAD PARAMETER ERROR	V4.1	Nov 85 F
	40.30.3	MOUNTING MAGNETIC TAPES WITHOUT PROPER ACCESS	V4.1	Jan 86 F
	40.30.4	MOUNTING TAPE WITH ACCESSIBILITY CHARACTER	V4.1	Jan 86 F
	40.30.5	MOUNT IGNORES DEVICE ACCESS CONTROL LISTS	V4.1	May 86 F
MTAAACP	40.40.1	MTAAACP PROCESSES ANSI TAPES INCORRECTLY	V4.0	Nov 85 F
RMS	40.45.1	READ FROM SYS$OUTPUT FAILS	V4.0	Sep 85 R F
	40.45.2	COPY/OVERLAY FAILS IF DESTINATION WRITE-PROTECTED	V4.0	Sep 85 R F
	40.45.3	CONFUSION ON $CREATE USING SEARCH LISTS	V4.0	Sep 85 R
	40.45.4	RENAME RETURNS INCORRECT ERROR MESSAGE	V4.0	Sep 85 R F
	40.45.5	ACCESS CONTROL STRING PARSED INCORRECTLY	V4.0	Sep 85 R F
	40.45.6	FILE CORRUPTION WITH GLOBAL BUFFERS	V4.0	Sep 85 F
	40.45.7	SYS$RMSRUNDWN RETURNS INCORRECT STATUS	V4.0	Sep 85 F
	40.45.8	SEARCH LIST QUESTIONS	V4.0	Sep 85 F
	40.45.9	REMOTE COMMAND PROCEDURES FAIL	V4.0	Sep 85 F
	40.45.10	VERSION 4 COPY WILL NOT COPY VERSION 3 ISAM FILES	V4.1	Sep 85
	40.45.11	RMS FILE PARSE PROBLEM WITH LEVEL 8 DIRECTORIES	V4.0	Sep 85 F

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	40.45.12	FILE LOCKED ERROR CONFUSION	V4.1	Nov 85
	40.45.13	FILESCAN DOCUMENTATION ERRORS	V4.0	Nov 85
	40.45.14	ERROR REPORTED FROM SYS$RMSRUNDOWN	V4.1	Nov 85
	40.45.15	RMS BUGCHECKS DURING BATCH JOB DELETION	V4.1	Jan 86 F
	40.45.16	RMS DOES NOT SEND MXV TO FCS FAL	V4.1	Jan 86 F
	40.45.17	APPEND PROBLEM WITH RMS_EXTEND_SIZE	V4.1	Mar 86 F
	40.45.18	SYS$SETDDIR ALTERS DEFAULT DIRECTORY ONLY	V4.1	May 86
	45.0	RTL SECTION		
RTL	45.1.1	VAX BASIC PROGRAMS RETURN AN INCORRECT ERL FOR ERRORS 50 AND 52	V4.0	Jul 85
	45.1.2	RENAME FAILS IF TARGET FILE ON REMOTE NODE	V4.1	Nov 85
	55.0	UTILITIES SECTION		
ANALYZE	55.5.1	ANALYZE/IMAGE REPORTS INCORRECT LINK DATE AND TIME	V4.0	Jul 85 F
	55.5.2	ANALYZE/ERROR/INCLUDE=CPU PROBLEM	V4.1	Jan 86 F
AUTHORIZE	55.10.1	AUTHORIZE HAS TROUBLE PARSING /<ACCESS> QUALIFIERS	V4.0	Jul 85 F
	55.10.2	REVOKE/IDENTIFIER DOES NOT REMOVE UICS	V4.0	Jul 85
	55.10.3	CLARIFICATION OF ADD/NETWORK	V4.0	Sep 85 F
	55.10.4	AUTHORIZE AND DISKQUOTA DO NOT RETURN STATUS	V4.0	Sep 85
	55.10.5	PROBLEM WITH SHOW/ID FOLLOWED BY MOD/ID	V4.0	Sep 85 F
	55.10.6	DATE HANDLED IMPROPERLY BY /NOPWDEXPIRED QUALIFIER	V4.0	Nov 85 F
	55.10.7	WILDCARD SPECIFICATION NOT ALLOWED	V4.0	Nov 85
	55.10.8	AUTHORIZE CAPITALIZES QUOTED STRINGS	V4.0	Nov 85 F
	55.10.9	UIC [0,0] IS RESERVED	V4.0	Nov 85
	55.10.10	RUN/INPUT=FILE CAUSES AUTHORIZE TO HANG	V4.1	Nov 85 F
	55.10.11	AUTHORIZE DOES NOT SUPPORT USE OF WILDCARDS	V4.1	Nov 85
	55.10.12	LOGIN FLAG DISPLAY TRUNCATED BY AUTHORIZE	V4.1	Mar 86
	55.10.13	MISCELLANEOUS QUESTIONS ABOUT IDENTIFIERS	V4.1	Mar 86 F
	55.10.14	MAIL RECORD REMAINS, USER REMOVED FROM UAF	V4.1	Mar 86
	55.10.15	PRIVILEGE CATEGORY MUST CONSIDER DEFAULT PRIVILEGE	V4.1	May 86
BACKUP	55.20.1	PROBLEM BOOTING STANDALONE BACKUP	V4.0	Jul 85
	55.20.2	NEGATIVE VERSION NUMBERS DO NOT WORK IN BACKUP	V4.0	Nov 85
	55.20.3	INCORRECT ACL ON CREATED DIRECTORIES	V4.0	Nov 85 F
	55.20.4	NO END-OF-FILE CHECK IN RESTORE /VERIFY	V4.0	Nov 85
	55.20.5	INVALID QUALIFIERS ARE IGNORED	V4.1	Nov 85
	55.20.6	IMAGE RESTORE OF ODS-1 DISK FAILS	V4.1	Nov 85 F
	55.20.7	FILE SELECTION INAPPLICABLE IN INCREMENTAL RESTORE	V4.1	Nov 85
	55.20.8	FILES WITH MULTIPLE DIRECTORY ENTRIES	V4.1	Jan 86
	55.20.9	LARGE ACLs CAUSE BACKUP TO ACCVIO	V4.1	Mar 86
	55.20.10	TMSCP-CLASS TAPE CANNOT RESTART	V4.0	May 86 R F
	55.20.11	ENHANCE BACKUP TO DETECT DIRECTORY PROBLEMS	V4.1	Mar 86
	55.20.12	INTERCHANGE DOES NOT SUPPRESS DIRECTORY COPYING	V4.0	May 86
	55.20.13	OPCOM REPLY/ABORT FAILS TO ABORT BACKUP	V4.0	May 86
	55.20.14	DENSITY CHANGES ON MULTIVOLUME SAVE SET	V4.0	May 86
	55.20.15	BACKUP JOURNAL FILE CORRUPTION	V4.0	May 86 F
	55.20.16	INCORRECT ERROR MESSAGE FROM BACKUP	V4.2	May 86

Component/ Product	Sequence Number	Title of Article	Operating System	Mon/Yr
COPY	55.35.1	EXPLICIT DIRECTORY COPY FAILS	V4.0	Nov 85 F
	55.35.2	COPY FAILS WITH RMS MBC ERROR	V4.1	Nov 85 F
DEBUG	55.50.1	SET MODULE COMMAND TAKES TOO LONG	V4.0	Sep 85
	55.50.2	COMMA LISTS ON DEPOSIT NOT ALLOWED	V4.1	Sep 85
	55.50.3	INTERNAL DEBUG ERROR ON RESERVED OPERAND FAULT	V4.1	Nov 85
	55.50.4	PROBLEM WITH SCREEN WIDTH LARGER THAN 132	V4.1	Jan 86
	55.50.5	DEBUG FAILS TO PROCESS FILES	V4.0	Jan 86
	55.50.6	INCORRECT SCREEN SIZE IN SCREEN MODE	V4.2	Mar 86
	55.50.7	DECLARE COMMAND IN C	V4.2	Mar 86
	55.50.8	EVALUATE/HEX NUMBER IN PL/I	V4.2	Mar 86
DIRECTORY	55.65.1	DIRECTORY OUTPUT MISSING TOTAL LINE	V4.0	Jul 85 F
	55.65.2	DIRECTORY MAY DISPLAY NONEXISTENT FILES	V4.0	Jul 85
DISK QUOTA	55.70.1	DISK QUOTA ERROR CAUSED BY OWNER PROPAGATION	V4.0	Nov 85
DUMP	55.85.1	PROBLEM WITH 8-BIT ASCII CHARACTERS ON PRINTERS	V4.1	Nov 85
EXCHANGE	55.90.1	RT-11 MAGNETIC TAPE SUPPORT	V4.1	Nov 85
	55.90.2	EXCHANGE DOES NOT HANDLE LONG RT-11 RECORDS	V4.1	Nov 85
	55.90.3	EXCHANGE PRODUCES INTERNAL LOGIC ERROR 175	V4.0	Jan 86
HELPTEXT	55.96.1	INCORRECT EXAMPLE OF MAIL COMMAND	V4.1	Nov 85 F
INITIALIZE	56.5.1	INITIALIZE/INDEX:BLOCK=N NOT RECOGNIZED	V4.0	Jul 85 F
	56.5.2	INITIALIZE DOES NOT USE SOFTWARE BAD BLOCK AREA	V4.1	May 86 F
INSTALL	56.10.1	INABILITY TO INSTALL EXECUTABLE IMAGES	V4.0	Jul 85
LIBRARIAN	56.15.1	PROBLEM DECOMPRESSING A LIBRARY	V4.0	Jul 85
LINKER	56.20.1	LINKER OPEN FILE LIMIT PROBLEM	V4.0	Jul 85 F
	56.20.2	LINKER REJECTS VALID FILE NAMES IN OPTIONS FILES	V4.0	Jul 85 F
	56.20.3	VERSION 4.0 IMAGES LARGER THAN VERSION 3.0 IMAGES	V4.0	Sep 85
MAIL	56.30.1	MAIL CANNOT RUN ON A GIGI TERMINAL	V4.0	Sep 85 F
	56.30.2	PRINTING IN MAIL IGNORES PAGE ATTRIBUTES	V4.0	Nov 85
	56.30.3	MAIL REPORTS INCORRECT ERROR ON LOCKED DISK	V4.1	Nov 85
	56.30.4	MAIL COMMAND COMPRESS DOES NOT RECLAIM SPACE	V4.1	Jan 86 F
	56.30.5	PROBLEMS WITH TERMINAL SET TO SCOPE/PAGE=0	V4.1	Jan 86 F
	56.30.6	MAIL SENDS RUNOFF OUTPUT FILES INCORRECTLY	V4.1	Jan 86
	56.30.7	MAIL ERROR SENDING NONSPAN FILES	V4.1	Jan 86 F
	56.30.8	PASSWORD OF ACCESS CONTROL STRING NOT MASKED	V4.0	Jan 86
	56.30.9	MAIL ALLOWS BAD FORWARDING ADDRESS	V4.1	Mar 86
	56.30.10	MAIL SCROLLS INCORRECTLY WITH LONG LINES	V4.2	Mar 86
MONITOR	56.40.1	FOREIGN TERMINAL SUPPORT DOES NOT WORK	V4.0	Sep 85 F
	56.40.2	MONITOR'S VIRTUAL MEMORY USAGE GROWS CONTINUOUSLY	V4.0	Sep 85 F
	56.40.3	PROBLEMS WITH VIRTUAL MEMORY	V4.1	May 86 F
	56.40.4	PROBLEM WITH XQP DATA	V4.1	May 86
	56.40.5	INTERVAL DOES NOT WORK AS DOCUMENTED	V4.1	May 86

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PURGE	56.52.1	PURGE CAN INCORRECTLY DELETE FILES	V4.0	Sep 85
	56.52.2	PURGE HANDLES RELATED FILES INCORRECTLY	V4.1	May 86 F
SEARCH	56.75.1	SEARCH DISPLAYS CONTROL CHARACTERS IMPROPERLY	V4.0	Nov 85
SET	56.80.1	SET PASSWORD SIGNALS ERRORS TWICE	V4.0	Jul 85 F
	56.80.2	VOLUME RETENTION DATES OVERRIDE SET FILE DATES	V4.0	Sep 85
	56.80.3	SET PASSWORD ALWAYS RETURNS SUCCESS STATUS	V4.1	Sep 85 F
	56.80.4	PROBLEM WITH SET VERIFY IN BATCH JOBS	V4.0	Nov 85 F
	56.80.5	SET TERMINAL/INQUIRE PROBLEM ON VT55	V4.0	Nov 85 F
	56.80.6	SET ACL DOES NOT SELECT FILES	V4.1	Jan 86
	56.80.7	SET VOLUME/DATA_CHECK IGNORES KEYWORD	V4.1	Jan 86
	56.80.8	DF112 SUPPORT IN SET HOST/DTE/DIAL	V4.1	May 86 F
SHOW	56.85.1	CNX_STATE DOCUMENTATION ERROR	V4.1	Sep 85 F
	56.85.2	SHOW KEY COMMAND DISPLAYS NCORRECT ECHO STATE	V4.0	Nov 85
	56.85.3	RANDOM BROADCAST CLASSES DISABLED	V4.0	Nov 85 R
	56.85.4	BASE PRIORITY WRONG IN SHOW PROCESS/CONTINUOUS	V4.0	Jan 86
	56.85.5	DEFINE DEVICE AS DEVICE	V4.0	Mar 86
	56.85.6	SHOW LOGICAL "" RESULTS IN ACCVIO	V4.3	Mar 86
SHUTDOWN	56.90.1	SHUTDOWN$INFORM_NODES USAGE DESCRIBED	V4.0	Sep 85
	56.90.2	TIME-OF-YEAR CLOCK CAUSES SHUTDOWN ERROR	V4.0	Sep 85 F
	56.90.3	SHUTDOWN DOES NOT DETECT AMBIGUOUS OPTIONS	V4.0	Nov 85 F
SPAWN	57.10.1	CANNOT SPECIFY SPOOLED DEVICE WITH SPAWN	V4.0	Sep 85 F
	57.10.2	LIB$SPAWN FAILS WITH MBFULL	V4.0	Sep 85
	57.10.3	SPAWN/INPUT DOES NOT WORK WITH A SEARCH LIST	V4.1	Nov 85 F
SUBMIT	57.15.1	SUBMIT X,Y FAILS WITH ACCESS VIOLATION	V4.1	Nov 85 F
	57.15.2	SUBMIT A,B CAUSES ACCESS VIOLATION	V4.1	Jan 86 F
	57.15.3	SUBMIT/LOG_FILE COMMAND REQUIRES FILE-SPEC	V4.1	Mar 86 F
	60.0	**VAXcluster-RELATED ARTICLES**		
CNXMAN	60.5.1	INVALID DATA READ FROM QUORUM DISK ON UDA	V4.1	Nov 85
	60.5.2	TEMPORARY LOSS OF QUORUM IN CLUSTER	V4.0	Nov 85
	60.5.3	CONCEPT OF QUORUM IN A VAXCLUSTER	V4.n	Jan 86
	62.0	**VERSION 4 ENHANCEMENTS SECTION**		
ENHANCEMENTS	62.5.1	ENHANCEMENTS IN VERSION 4.0 DCL	V4.0	Sep 85 F
	62.5.2	ENHANCEMENTS AND FIXES IN VERSION 4.0 RMS	V4.0	Nov 85 F
	65.0	**DOCUMENTATION SECTION**		
DOCUMENTATION	65.5.1	SYS$TRNLNM EXAMPLE IS INCORRECT	V4.0	Jul 85
	65.5.2	SNDOPR SYMBOLIC CODE INCORRECT	V4.0	Jul 85 F
	65.5.3	UNDOCUMENTED ERROR MESSAGE FOR MOUNT	V4.0	Jul 85 F
	65.5.4	SYS$GETJPI DOCUMENTATION ERRORS	V4.1	Sep 85 F
	65.5.5	SYS$GETJPI DOCUMENTATION ERROR	V4.0	Sep 85 F

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	65.5.6	CHAN ARGUMENT INCORRECT FOR $GETDVI	V4.0	Sep 85	F
	65.5.7	INCORRECT DOCUMENTATION OF $QIO PARAMETER P1V	V4.0	Nov 85	F
	65.5.8	SOME DEFINABLE KEYS DO NOT EXECUTE	V4.0	Nov 85	F
	65.5.9	INCOMPLETE RELEASE NOTE ON CONSOLE TU58	V4.0	Nov 85	
	65.5.10	INADEQUATE AUTOBAUD INFORMATION	V4.0	Nov 85	F
	65.5.11	PRIVILEGE NECESSARY FOR $BRKTHRU	V4.1	Nov 85	F
	65.5.12	ERRORS IN DEVICE DRIVER DOCUMENTATION	V4.0	Nov 85	F
	65.5.13	INCOMPLETE $GETDVI DESCRIPTION	V4.1	Nov 85	F
	65.5.14	NAME CHANGE FOR SMG$ ROUTINE	V4.1	Nov 85	F
	65.5.15	SYSCOMMON/SYSEXE LINK NOT DOCUMENTED	V4.1	Nov 85	
	65.5.16	ERROR IN GUIDE TO VAXCLUSTERS (BOOTING FROM HSC)	V4.0	Jan 86	
	65.5.17	UDABURSTRATE ADJUSTMENTS IN SYSGEN CAUSE PROBLEMS	V4.0	Jan 86	
	65.5.18	XEDRIVER AST DOES NOT WORK AS DOCUMENTED	V4.0	Jan 86	F
	65.5.19	XEDRIVER DOES NOT TRIGGER ATTENTION AST	V4.0	Jan 86	F
	65.5.20	AUTHORIZE QUALIFIERS ARE MISSPELLED	V4.0	Jan 86	
	65.5.21	INCORRECT MINIMUM STARTUP PROCEDURE	V4.0	Jan 86	F
	65.5.22	INCORRECT CONDITION VALUE IN $UPDSEC	V4.1	Jan 86	F
	65.5.23	INCORRECT DESCRIPTION OF $MOUNT SYSTEM SERVICE	V4.1	Jan 86	F
	65.5.24	INCORRECT DESCRIPTION FOR SET FILE/NODIRECTORY	V4.1	Jan 86	F
	65.5.25	DELTA TIME DOCUMENTATION ERROR	V4.2	Mar 86	F
	65.5.26	INCORRECT ACP RECORD ATTRIBUTES FORMAT	V4.1	Mar 86	F
	65.5.27	SET FILE/NODIRECTORY INCORRECTLY DOCUMENTED	V4.1	Mar 86	F
	65.5.28	CTRL/V DOES NOT ENABLE VT200 F6 KEY	V4.1	Mar 86	F
	65.5.29	DISMOUNT/ABORT FAILS WITH DEVALLOC	V4.1	Mar 86	
	65.5.30	ERRONEOUS DEFAULT KEYWORD VALUE	V4.1	Mar 86	F
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	65.5.36	INCOMPLETE HELP FOR * PRODUCT: PROMPT	V4.2	Mar 86	F
	65.5.37	ERROR IN F$FAO LEXICAL FUNCTION	V4.1	Mar 86	F
	65.5.38	NCP MANUAL UPDATE INSTRUCTIONS WRONG	V4.2	Mar 86	F
	65.5.39	PURGE KNOWN NODES COMMAND ALSO PURGES EXECUTOR	V4.0	May 86	F
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	95.5.2	ERRANT FORMATTING BEHAVIOR IN VAX/VMS PRINT SYMBIONT	V4.0	Jul 85 F
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DUDRIVER	95.5.5	SYSTEM DISK MOUNT VERIFICATION TIMEOUT	V4.1	Sep 85 F
RMS	95.5.6	DIRECTORY AND SEARCH LIST CONFUSION	V4.0	Sep 85
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SOFTWARE PROBLEMS OR ENHANCEMENTS

Questions, problems, and enhancements to DIGITAL software should be reported on a Software Performance Report (SPR) form and mailed to the SPR Center at one of the following Digital Offices: *(SPR forms are available from the SPR Center).*

Areas Covered	SPR Center
United States; remainder of Far East, Middle East, Africa Latin America	Corporate Administrative Services Group P.O. Box F Maynard, MA 01754
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Australia, New Zealand	Digital Equipment Aust. Pty. Ltd. P.O. Box 384 Chatswood, New South Wales 2067 Australia
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DIGITAL SOFTWARE LICENSING

DATA SHEET

This data sheet explains what software licenses are and why customers must obtain a software license to run any item of DIGITAL proprietary software.

DIGITAL does not sell software; DIGITAL offers software under a license agreement. DIGITAL has a license agreement for source software and object software. Since DIGITAL software programs are made available primarily in object code, this data sheet focuses on the purchase of object programs.

Introduction to Software Licensing

When DIGITAL hardware is purchased, all rights of ownership (legally called "title") to the hardware pass to the customer. This is not the case with software. DIGITAL regards software as proprietary information. Since software is easily reproduced, it must be legally protected from improper copying. Therefore, DIGITAL uses a combination of trade secret and copyright legal protection for software. DIGITAL protects its investment by retaining title to its software at all times and requires anyone wishing to use it to obtain a license.

How DIGITAL Licenses Software

The license agreement for object programs is contained in DIGITAL's standard Terms and Conditions of Sale and Corporate Volume Purchase Agreements instead of as a separate agreement. Therefore, when software products are purchased under DIGITAL's Terms of Sale, the software license agreement is made at the same time.

Key Principles of the License Agreement

Object code is licensed for single use. This means obtaining a license for a product allows the associated software to be used on the "single" CPU on which it was first installed. Other key points are as follows:

- If the licensed CPU temporarily malfunctions, the software may be run on another machine while the CPU is down.
- Copies of the software may be made for backup purposes if appropriate proprietary and copyright notices are included.
- The software may be modified or merged with other software if appropriate proprietary and copyright notices are included.
- The software may be used by the customer's employees and its agents directly concerned with the internal use, but may not be made available to anyone else.

Modification to the Software Product

Any modification to licensed software does not exempt the product from DIGITAL license terms. Every line of code from a software product falls under the terms of the license. Only those modifications that are not part of the original software are the customer's property. It is important to note that warranty on the product is limited to the original software supplied by DIGITAL.

Transferability of Licensed Software Products

License Transfer - A license agreement does not automatically allow transfer of licensed software to another party or another CPU. If the customer intends to sell the licensed CPU and pass on the software with the sale or move the software onto another CPU, permission must be obtained from DIGITAL. A case-by-case License Transfer is required to relicense the software.

Software Sublicensing - DIGITAL customers with a purchase agreement authorizing sublicensing, such as OEMs, may transfer licensed object products to their customers without a License Transfer. A valid sublicense, executed by an OEM with its customer, gives the OEM's customer the same license rights and responsibilities as a license agreement made directly with DIGITAL.

Source Software

Sources are only available for selected products. A license agreement for source software must be separately executed for each facility/location which intends to purchase sources in machine-readable, listing, or microfiche form. Further information and availability of sources can be found in the applicable Software Product Description (SPD).

Software Warranty

Each licensed software product offered has an SPD describing the warranty commitment for the product. Software products under DIGITAL warranty must conform to the description provided for a 90-day period, which generally begins upon product installation or 30 days after delivery. All other products are provided AS IS, without warranty. The SPD clearly states under which warranty category the product falls.

Purchasing the License for the Software Product

A license must be obtained for each CPU on which the licensed software will be used (unless otherwise specified by DIGITAL).

A Single-use License for object code is generally ordered according to the type/classifcation of the CPU or system configuration intended to run the product. Further information and availability can be found in the applicable SPD.

Software Product

A license is a prerequisite to purchase the associated software. The Media and Documentation Option for a product is ordered according to media type. Further information and availability of media can be found in the applicable SPD.

Purchasing Software Product Revisions/Updated Versions

If a licensed customer is not covered by a product service agreement, updated versions can be purchased when they are made generally available. Updated versions are ordered according to media type. A customer can also choose to run updated versions on additional CPUs, but not purchase multiple media distributions. If this is the case, the Software Revision Right-to-Copy option must be purchased for each CPU which runs the updated version.

Software Product Services

A licensed customer can purchase annual product service agreements to receive updated versions on media when available. A customer may choose to copy updated versions onto additional CPUs during this service agreement period. In this case, the software Service Right-to-Copy must be purchased for each CPU which runs the updated version. Further information and availability can be found in the applicable SPD. Your local DIGITAL office can be contacted for additional assistance.

DIGITAL EQUIPMENT COMPUTER USERS SOCIETY

BENEFITS OF BELONGING

The Digital Equipment Computer Users Society (DECUS) is one of the largest and most respected users groups in the computer industry today. Membership in DECUS, which is free and voluntary, provides the individual user with information and services not found anywhere else.

DECUS provides an environment where users of Digital Equipment Corporation products can share information with other users and with DIGITAL. Members can find out the latest news on DIGITAL's hardware, software, and educational products. The feedback exchange with DIGITAL allows the users of DIGITAL's products to have a voice in the company's future.

Founded in 1961, DECUS now has three autonomous areas worldwide - DECUS U.S., DECUS Europe, made up of eight independent chapters, and DECUS GIA (General International Area), made up of four independent chapters. DECUS services and activities are shared between these chapters through mutual agreements.

All DECUS services promote the exchange of information in a noncommercial environment. Included in these services are:

Special Interest Groups (SIGs)

These groups, formed around an area of common interest, exist for a variety of hardware, operating systems, languages, applications, and marketing areas. Participation in these groups allows fellow users to exchange information and share technical expertise in the areas of most interest to the users.

Local Users Groups (LUGs) and National Users Groups (NUGs)

LUGs and NUGs are licensed groups of individuals who gather to share information with other users on a periodic basis. Not only do they have common professional interest, but they also have geographic and cultural ties. DIGITAL representatives attending these meetings often unveil new products and services and supply updates on existing policies and procedures.

Symposia

DECUS holds symposia each year in the different chapters, two per year in the U.S. These meetings provide a unique opportunity for users with a wide spectrum of experience to meet for up to five days of intensive technical exchange. Symposium activities include workshops, clinics, panels, tutorials, and formal paper presentations. DIGITAL participates in symposia by sending Product Group managers and developers to discuss strategies, products, problems, and solutions.

Publications

The flow of information among users, as well as between users and DIGITAL, is the primary goal of DECUS. Various publications generated by DECUS support this communication. They include chapter newsletters and *The Proceedings*, a technical volume published after each symposium. DECUS also publishes Special Interest Groups' newsletters that provide information pertaining to specific DIGITAL products.

Program Library

The DECUS Program Library is the main vehicle for the exchange of software among users of all DIGITAL systems. The Library contains over 1000 software programs written and voluntarily submitted by users. These programs include compilers, editors, utilities, numerical and statistical functions, as well as games and graphic routines. The Library publishes an annual software catalog that lists and describes all the DECUS programs available to all users for a minimal charge.

You are cordially invited to join over 60,000 other users of DIGITAL products around the world and begin to share your experiences, both successes and problems.

For more information, contact the appropriate DECUS chapter office listed here.

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